

Nucleotide sequence of the mouse muscle nicotinic acetylcholine receptor α subunitK.E.Isenberg¹, J.Mudd², V.Shah² and J.P.Merlie²Department of ¹Psychiatry and ²Pharmacology, Washington University School of Medicine and ¹Jewish Hospital of St. Louis, St. Louis, MO 63110, USA

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We report nucleotide sequence and deduced amino acid sequence for the mouse muscle nicotinic acetylcholine receptor α subunit. Our sequence is a composite derived from clones isolated from cDNA libraries made from poly A+ RNA from BC3H1 cells (1). Both strands of the clones were completely sequenced. Sequence has been reported previously for α from several species (2-5). Our nucleotide sequence includes an initiator methionine based on sequence comparison with other species, and extends the mouse α cDNA sequence 42 nucleotides at the 5' end (5). Nucleotide sequence changes from the previously published mouse sequence (5) are marked by filled circles. The differences at nucleotide positions 43 and 44 predict a cys in place of a ser (5) within the signal sequence.

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CACAGCCCAGTGGAGCTCTGCAGTGTCTCCCTGCTGGCTAGGCCCTCGCTCCGCTGCGCTGCTGGGCTCCGAACATGAGACCGCTCTGGTGCAAGCTTTGAAGACTACAGCAG
M E L S T V L L L G L C S A G L V L G S E H E T R L V A K L F E D Y S S
120 GTAGTCGGCCAGTGGAGACACCGTGAGATTGACAAAGTACCCGGGCTCTACAGCTGATCCAGCTTATCAATGTTGGATGAAGTAATCAGATTGACAACCAATGAGCTGAA
V V R P V E D H R E I V Q V T V G L Q L I Q L I N V D E V N Q I V T T H V R L K
240 CAGCAATGGGTGATTACAACCTGAAATGGAACTCAGATGACTATYGGAGGAGTGGAAAAAATTTCACACCCCTCGGAAAAGTCGGGCGCGACGCTGCTCTCTATAAACACGGAGA
Q Q W V D Y N L K W P D D V V K K I H I P S E K I V R P D V V L Y N H A D
360 GGCAGACTTTGCCATTGTCAAATTACCAAGGTTCTCTGACTACACCGGCCACATCACCTGGACACCGCCAGCCTCTTAAAGACTACTGTGAGATCATTGCACTCACCTTCCCTI
G D F A I V E F T K V L L D T Y G H I T W T P F A I F S C E I V T V H F F F
480 GATGAGGAGAACTGCGCATGAGCTGGGACCTGGGACCTGGGACCTGGGACCTGGGACCTGGGACCTGGGACCTGGGACCTGGGACCTGGGACCTGGGACCTGGGAGCTGGGT
D E Q H C S M K T L G T W T Y D G S V V A I N F S D O P D L S R F P E G M V
600 ATCAAGGAAGCTGGGGCTGGAGACTGGGTTCTACTCTGGCTGCCACCACCTCCACCTGGACATCACCTAACCTCTGGCTAGCGACGCCCTGCCCTCTACTCTGATTTGCAAN
I K E A R G W K R H W F T S C M P C T T P Y D S E T H V F N Q K L P L Y F I V N
720 GTCATCATTCCTGGCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT
V I P C L F S P F L T S L V F Y T D S G E K H T L S I S V L S L T V F L
840 CTGGTCACTGGGGAGCTAACTCCCTTCCACCTCCMCCTGCTGGCCCTGATCGGGAGTGTGTTGTCACCATGAGCTCTGGGTCCATCATCAGCTACCGCTCATCGTACAA
L V I V E I P S T S D G P F G P P H N G F H S P L I K H F E V K S A I E
960 ACACACACCCCTGGCCCAAGCCCCACATCATGCCGAGTGGTCCGGAGGGTTTATGCACTATCCCAACATCAGGTTTCTTCACACATGAAAGACCATCCAGAGATAAACAC
T H R S P S T H I N F E W V R E V F I D T I P H I M F F S T H K R P S R D K Q
1080 GAGAAAAGATTTTACAGAGACATGATATATCTGACATCTCTGGGAGACGCGGGCTCTCCACCTATGGGCTTCTACTCTGGCTGAGTCAAGCACCCCTGAGTGAAGACCGCATGGA
E K R D I D S I G S P F G P P H N G F H S P L I K H F E V K S A I E
1200 GGCCTGAAAGTACATGCGAGACATGAGATGAGCTGAGGAGTCCAAATACGGCCGCTGAGGAATGGAAATGAGATGAGTGGCTCATGGTGTAGTACATCTCTCCGGAGCTTATGCTGGT
G V Y K I A E T H K S D Q E S H N A A E E W K Y V A H V R D H I L L G V F H L V
1320 TGCTCTCATGGGAGCTGGCTGTGTTGAGGTGCGCTCATGAGATTACATCACACAAAGGATGAGCACAGGGCTGAGCTGAGCTACCTCTGTCAGCCATGCCATGGAGAAGT
C L I G T L A V F A G R L I E L N Q Q G
1440 GAAGAGAGAGAGGTGTCTCTGGATCTTACACATACGGGCTCTTAAAGGGCCTCTTAAAGGGCAGAACCTTGAAGTAAATAAAGTGGAGCTTACCTCTGTCAGCCATGCCATGGAGTTC
1560 CCCCTTGTCTCTCTTAAACTATGGGCTCTTAAAGGGCAGAACCTTGAAGTAAATAAAGTGGAGCTTACCTCTGTCAGCCATGCCATGGAGTTC
1680 TGGATACTCAAGGTTCTGTTTGTATGGCATGGCTAGTGTGTTTCTTCTTAAATAATAATGACTTATAAAMMAA

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